

Claims

1.-5. (Canceled)

6. **(Currently Amended)** A method of operating a screen to transition between display of ~~a television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying ~~a television signal~~ video;

in response to link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network;

responsive to a signal from a viewer during the displaying the icon, displaying a graphical control panel operable by the viewer to cause display of the auxiliary data associated with the icon, wherein the graphical control panel is displayed before displaying of the auxiliary data; and

responsive to a second signal from the viewer during the displaying the control panel, ending the displaying the control panel.

7.-12. (Canceled)

13. (Previously presented) The method of claim 6 which includes:
displaying in the graphical control panel a title of the auxiliary data associated with the icon.

14. (Canceled)

15. (Previously presented) The method of claim 13 which includes displaying in the graphical control panel at least one graphical control that can be activated by the viewer to indicate the viewer's desire to view the auxiliary data.

16. **(Currently Amended)** A method of operating a screen to transition between display of ~~a televised~~ an advertising message and display of additional information from the Internet relating to the subject of the advertising message, comprising:

displaying ~~a televised~~ an advertising message;
in response to logical address link data conveyed with the ~~televised~~ advertising message, displaying with said ~~televised~~ advertising message an icon; and
in response to user selection of said icon, displaying a graphical control panel that presents to the user a plurality of options selectable by the user, the options including a first option selectable by the user to indicate desire to return to the displaying the ~~televised~~ advertising message, and the options further including a second option selectable by the user to indicate desire to view additional information from the Internet relating to the subject of said advertising message, wherein the graphical control panel is displayed before displaying of the additional information.

17.- 20. (Canceled)

21. **(Currently Amended)** A method of operating a screen to crossover between display of ~~television programming~~ video and display of supplementary data from the Internet, comprising:

(a) displaying the ~~television programming~~ video on the screen;
(b) in response to logical address link data conveyed with the ~~television programming~~ video, alerting a viewer to the availability of a page of supplementary data from the Internet associated with said displayed ~~television programming~~ video;
(c) receiving a signal from the viewer indicating an interest in the supplementary data;
(d) responsive to said indication of viewer interest, displaying a graphical control panel that includes textual data related to said page of supplementary data, the control panel permitting the viewer to signal further interest in viewing the supplementary data;
(e) receiving a further signal from the viewer indicating a continued interest in the supplementary data;
(f) responsive to said further indication of viewer interest, displaying said page of supplementary data; and

(g) responsive to a second further indication of viewer interest, adding identifying data for said page of supplementary data into a favorites folder.

22. **(Currently Amended)** The method of claim 21 in which (d) includes displaying the control panel in conjunction with display of said ~~television programming~~ video.

23. (Canceled)

24. **(Currently Amended)** The method of claim 21 in which (f) includes replacing display of the ~~television programming~~ video with display of said page of supplementary data.

25. (Previously presented) The method of claim 6 further comprising:
compiling a log, the log including data identifying the auxiliary data;
in response to a third signal from the viewer, recalling at least part of the log to the screen for display;
permitting the viewer to select auxiliary data from the log for display; and
displaying the selected auxiliary data.

26. **(Currently Amended)** The method of claim 25 in which the log additionally stores data identifying the ~~television signal~~ video.

27. (Canceled)

28. (Previously presented) The method of claim 6 wherein the control panel includes plural graphical controls including a first graphical control for causing display of the auxiliary data and a second graphical control for ending the displaying the control panel.

29. (Canceled)

30. **(Currently Amended)** A method of operating a screen to crossover between display of ~~a television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying ~~a television signal~~ video;

in response to logical address link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network;

responsive to a signal from a viewer during the displaying the icon, displaying a graphical panel that includes a descriptor of the auxiliary data, wherein the panel includes a first graphical control actuatable by the viewer to indicate desire to return to the displaying the ~~television signal~~ video, and wherein the panel includes a second graphical control actuatable by the viewer to indicate desire to view the auxiliary data;

if the viewer actuates the first graphical control during the displaying the panel,

ending the displaying the panel; and

returning to the displaying the ~~television signal~~ video;

if the viewer actuates the second graphical control during the displaying the panel,

ending the displaying the panel; and

displaying the auxiliary data.

31. (Previously presented) The method of claim 6 wherein the icon and the graphical control panel are translucent.

32. **(Currently Amended)** The method of claim 31 wherein the displaying the icon and the displaying the graphical control panel comprise changing the luminance of the displayed ~~television signal~~ video.

33. **(Currently Amended)** The method of claim 6 wherein the link data is conveyed with the ~~television signal~~ video M different times during a program, but the displaying the icon occurs only N times, and wherein N is less than M, whereby the viewer is not unduly disrupted by repeated display of the icon during the program.

34. (Previously presented) The method of claim 33 wherein N equals one.

35. **(Currently Amended)** A set-top box for coupling a television set to the Internet, the set-top box including:

- a television interface for receiving a television signal and for processing the television signal to extract logical address link data embedded within the television signal;

- a user input device interface for receiving user input signals sent from a user with a user input device;

- a network interface for transmitting one or more requests for auxiliary data referenced by the logical address link data and for receiving the auxiliary data;

- a memory for storing computer-executable instructions for processing the user input signals, for processing the logical address link data, and for controlling one or more transitions between display of television programming and display of the auxiliary data; and

- a processing unit for executing the computer-executable instructions, thereby processing the user input signals and the logical address link data, and thereby controlling the one or more transitions between the display of the television programming and the display of the auxiliary data, wherein the processing unit:

- causes the display of the television programming,

- responsive to receipt of the logical address link data, causes display of an icon during the display of the television programming, the icon indicating the availability of the auxiliary data referenced by the logical address link data, and

- responsive to receipt of a first user input signal during the display of the icon, causes display of a graphical control panel operable to cause the display of the auxiliary data, wherein the graphical control panel includes one or more graphical controls actuatable to select the display of the television programming or the display of the auxiliary data, ~~and~~ wherein the graphical control panel includes text describing the auxiliary data, and wherein the graphical control panel is displayed before displaying of the auxiliary data.

36. (Canceled)

37. (Canceled)

38. (Previously presented) The set-top box of claim 35 wherein the processing unit further causes the display of the auxiliary data.

39. (Previously presented) The set-top box of claim 35 wherein the display of the icon comprises adjusting luminance to superimpose the icon on the television programming.

40. (Previously presented) The method of claim 6 further comprising displaying a progress indicator indicating progress of retrieval of the auxiliary data.

41. (Previously presented) The method of claim 6 further comprising:
in response to subsequent link data, skipping displaying the icon based at least in part upon result of comparing the subsequent link data to at least some previous link data.

42. (Canceled)

43. (Previously presented) The method of claim 6 further comprising:
adding identifying data for the auxiliary data into a favorites folder.

44. **(Currently Amended)** The method of claim 6 further comprising:
in response to subsequent link data conveyed with the ~~television-signal~~ video, comparing the subsequent link data to at least some of the previously conveyed link data;
if the subsequent link data matches any of the at least some previously conveyed link data, skipping displaying the icon; and
if the subsequent link data does not match any of the at least some previously conveyed link data, displaying with the displayed ~~television-signal~~ video the icon, said icon indicating the availability of second associated auxiliary data from the auxiliary data network.

45. (Previously presented) The method of claim 16 wherein the graphical control panel further presents to the user a title for the additional information from the Internet.

46. (Previously presented) The method of claim 16 wherein the graphical control panel includes a plurality of graphical controls, and wherein the plurality of graphical controls include a first graphical control associated with the first option and a second graphical control associated with the second option.

47. **(Currently Amended)** The method of claim 16 further comprising:
adding data identifying the additional information to a log; and
after selection of the first option, returning to the displaying of the ~~televised~~ advertising message.

48. (Previously presented) The method of claim 47 further comprising:
displaying at least part of the log; and
in response to user selection of the added data, retrieving and displaying the additional information.

49. **(Currently Amended)** The method of claim 16 wherein the displayed graphical control panel overlaps the displayed ~~television~~ advertising message, the method further comprising, after selection of the second option, displaying the additional information instead of the displayed ~~television~~ advertising message.

50. (Previously presented) The method of claim 49 wherein the icon is translucent.

51. (Previously presented) The method of claim 16 further comprising, during retrieval of the additional information, displaying a progress indicator.

52. (Previously presented) The method of claim 21 wherein the alerting includes displaying an icon.

53. (Previously presented) The method of claim 52 wherein the icon is translucent.

54. (Previously presented) The method of claim 53 wherein the graphical control panel includes a graphical control for causing the displaying of said page of supplementary data.

55. (Previously presented) The method of claim 53 wherein the graphical control panel includes plural graphical controls.

56. (Canceled)

57. **(Currently Amended)** The method of claim 21 further comprising:
in response to subsequent logical address link data, comparing the subsequent logical address link data to at least some previous logical address link data;
if the subsequent logical address link data matches any of the at least some previous logical address link data, skipping alerting the viewer; and
if the subsequent logical address link data does not match any of the at least some previous logical address link data, alerting the viewer to the availability of a second page of supplementary data from the Internet associated with said displayed ~~television programming~~ video.

58. (Previously presented) The method of claim 21 further comprising displaying a progress indicator.

59. **(Currently Amended)** The method of claim 21 further comprising, after the displaying the graphical control panel ends, displaying said page of supplementary data instead of the ~~television programming~~ video.

60. (Canceled)

61. (Canceled)

62. (Previously presented) The method of claim 30 further comprising:
displaying at least part of a log that includes a reference to the auxiliary data; and

in response to user selection of the reference, displaying the auxiliary data.

63. (Previously presented) The method of claim 30 wherein the icon is translucent.

64. (Previously presented) The method of claim 30 further comprising displaying a progress indicator indicating progress of retrieval of the auxiliary data.

65. **(Currently Amended)** The method of claim 30 further comprising:
in response to subsequent logical address link data conveyed with the ~~television signal~~
video, skipping displaying the icon based at least in part upon result of comparing the subsequent
logical address link data to the previously conveyed logical address link data.

66. **(Currently Amended)** The method of claim 30 wherein the displaying the auxiliary
data comprises replacing the displayed ~~television signal~~ video.

67. (Canceled)

68. (Previously presented) The set-top box of claim 35 wherein the icon is translucent.

69. (Previously presented) The set-top box of claim 35 wherein the processing unit:
causes display of at least part of a log that includes a reference to the auxiliary data; and
in response to user selection of the reference, causes display of the auxiliary data.

70. (Canceled)

71. (Previously presented) The set-top box of claim 35 wherein the processing unit
causes the display of the auxiliary data concurrently with the display of the television
programming.

72. (Previously presented) The set-top box of claim 35 wherein the processing unit
causes the display of the auxiliary data instead of the display of the television programming.

73. (Previously presented) The set-top box of claim 35 wherein the processing unit, after ending the display of the panel but before beginning the display of the auxiliary data, causes display of a progress indicator indicating progress of retrieval of the auxiliary data.

74. (Canceled)

75. (Previously presented) The set-top box of claim 35 wherein the processing unit causes display of a progress indicator indicating progress of retrieval of the auxiliary data.

76. (Previously presented) The set-top box of claim 35 wherein the processing unit: responsive to receipt of subsequent logical address link data, causes comparison of the subsequent logical address link data to at least some previous logical address link data; and if the subsequent logical address link data does not match any of the at least some previous logical address link data, causes display of the icon during the display of the television programming, the icon indicating the availability of additional auxiliary data referenced by the subsequent logical address link data.

77. (Previously presented) The set-top box of claim 35 wherein the processing unit causes addition of identifying data for the auxiliary data into a favorites folder.

78. (**Currently Amended**) A method of operating a screen to transition between display of a ~~television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying a ~~television signal~~ video;

in response to link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network; and

responsive to a signal from a viewer during the displaying the icon, displaying a graphical control panel operable by the viewer to cause display of the auxiliary data associated with the icon, wherein the control panel includes plural graphical controls including a first

graphical control for causing display of the auxiliary data and a second graphical control for ending the displaying the control panel, wherein the graphical control panel is displayed before displaying of the auxiliary data.

79. (Previously presented) The method of claim 78 which includes displaying in the graphical control panel a title of the auxiliary data associated with the icon.

80. (Previously presented) The method of claim 79 which includes, responsive to a second signal from the viewer during the displaying the graphical control panel, displaying the auxiliary data.

81. **(Currently Amended)** The method of claim 78 further comprising ending the displaying the graphical control panel and displaying the auxiliary data instead of the ~~television signal~~ video.

82. **(Currently Amended)** A method of operating a screen to transition between display of a ~~television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying a ~~television signal~~ video;

in response to link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network;

responsive to a signal from a viewer during the displaying the icon, displaying a graphical control panel operable by the viewer to cause display of the auxiliary data associated with the icon; and

in response to subsequent link data, skipping displaying the icon based at least in part upon result of comparing the subsequent link data to at least some previous link data.

83. **(Currently Amended)** A method of operating a screen to transition between display of a ~~television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying a ~~television signal~~ video;

in response to link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network;

responsive to a signal from a viewer during the displaying the icon, displaying a graphical control panel operable by the viewer to cause display of the auxiliary data associated with the icon; and

responsive to a second signal from the viewer indicating further interest in the auxiliary data, adding identifying data for the auxiliary data into a favorites folder.

84. **(Currently Amended)** A method of operating a screen to transition between display of a ~~television signal~~ video and display of auxiliary data from an auxiliary data network that delivers data apart from the ~~television signal~~ video, comprising:

displaying a ~~television signal~~ video;

in response to link data conveyed with the ~~television signal~~ video, displaying with the displayed ~~television signal~~ video an icon, said icon indicating the availability of associated auxiliary data from the auxiliary data network;

responsive to a signal from a viewer during the displaying the icon, displaying a graphical control panel operable by the viewer to cause display of the auxiliary data associated with the icon;

in response to subsequent link data conveyed with the ~~television signal~~ video, comparing the subsequent link data to at least some of the previously conveyed link data;

if the subsequent link data matches any of the at least some previously conveyed link data, skipping displaying the icon; and

if the subsequent link data does not match any of the at least some previously conveyed link data, displaying with the displayed ~~television signal~~ video the icon, said icon indicating the availability of second associated auxiliary data from the auxiliary data network.

85. **(Currently Amended)** A method of operating a screen to crossover between display of ~~television programming~~ video and display of supplementary data from the Internet, comprising:

- (a) displaying the ~~television programming~~ video on the screen;
- (b) in response to logical address link data conveyed with the ~~television programming~~ video, alerting a viewer to the availability of a page of supplementary data from the Internet associated with said displayed ~~television programming~~ video;
- (c) receiving a signal from the viewer indicating an interest in the supplementary data;
- (d) responsive to said indication of viewer interest, displaying a graphical control panel that includes textual data related to said page of supplementary data, the control panel permitting the viewer to signal further interest in viewing the supplementary data;
- (e) receiving a further signal from the viewer indicating a continued interest in the supplementary data;
- (f) responsive to said further indication of viewer interest, displaying said page of supplementary data;
- (g) returning to the displaying the ~~television programming~~ video;
- (h) responsive to said indication of viewer interest, adding data identifying said page of supplementary data to a log;
- (i) displaying at least part of the log; and
- (j) in response to user selection of the added data in the displayed log, re-displaying said page of supplementary data.

86. **(Currently Amended)** A method of operating a screen to crossover between display of ~~television programming~~ video and display of supplementary data from the Internet, comprising:

- (a) displaying the ~~television programming~~ video on the screen;
- (b) in response to logical address link data conveyed with the ~~television programming~~ video, alerting a viewer to the availability of a page of supplementary data from the Internet associated with said displayed ~~television programming~~ video;
- (c) receiving a signal from the viewer indicating an interest in the supplementary data;
- (d) responsive to said indication of viewer interest, displaying a graphical control panel that includes textual data related to said page of supplementary data, the control panel permitting the viewer to signal further interest in viewing the supplementary data;

(e) receiving a further signal from the viewer indicating a continued interest in the supplementary data;

(f) responsive to said further indication of viewer interest, displaying said page of supplementary data;

(g) in response to subsequent logical address link data, comparing the subsequent logical address link data to at least some previous logical address link data;

(h) if the subsequent logical address link data matches any of the at least some previous logical address link data, skipping alerting the viewer; and

(i) if the subsequent logical address link data does not match any of the at least some previous logical address link data, alerting the viewer to the availability of a second page of supplementary data from the Internet associated with said displayed ~~television programming~~ video.

87. **(Currently Amended)** A set-top box for coupling a television set to the Internet, the set-top box including:

a television interface for receiving a television signal and for processing the television signal to extract logical address link data embedded within the television signal;

a user input device interface for receiving user input signals sent from a user with a user input device;

a network interface for transmitting one or more requests for auxiliary data referenced by the logical address link data and for receiving the auxiliary data;

a memory for storing computer-executable instructions for processing the user input signals, for processing the logical address link data, and for controlling one or more transitions between display of television programming and display of the auxiliary data; and

a processing unit for executing the computer-executable instructions, thereby processing the user input signals and the logical address link data, and thereby controlling the one or more transitions between the display of the television programming and the display of the auxiliary data, wherein the processing unit:

causes the display of the television programming;

responsive to receipt of the logical address link data, causes display of an icon during the display of the television programming, the icon indicating the availability of the auxiliary data referenced by the logical address link data;

responsive to receipt of subsequent logical address link data, causes comparison of the subsequent logical address link data to at least some previous logical address link data; ~~and~~

if the subsequent logical address link data does not match any of the at least some previous logical address link data, causes display of the icon during the display of the television programming, the icon indicating the availability of additional auxiliary data referenced by the subsequent logical address link data; and

if the subsequent logical address link data does match any of the at least some previous logical address link data, skips display of the icon during the display of the television programming.

88. (Previously presented) The set-top box of claim 87 wherein the processing unit: causes display of a panel with description of the auxiliary data; and responsive to receipt of a first user input signal during the display of the panel, causes ending the display of the panel and beginning display of the auxiliary data.

89. (Previously presented) The set-top box of claim 88 wherein the processing unit causes the display of the auxiliary data concurrently with the display of the television programming.

90. (Previously presented) The set-top box of claim 88 wherein the processing unit causes the display of the auxiliary data instead of the display of the television programming.

91. (Previously presented) The set-top box of claim 88 wherein the processing unit, after ending the display of the panel but before beginning the display of the auxiliary data, causes display of a progress indicator indicating progress of retrieval of the auxiliary data.

92. (Previously presented) The set-top box of claim 87 wherein the processing unit: causes display of a panel with description of the auxiliary data; and

responsive to receipt of a first user input signal during the display of the panel, causes ending the display of the panel and returning to the display of the television programming.

93. (Previously presented) The set-top box of claim 87 wherein the icon is translucent.

94. (Previously presented) The set-top box of claim 87 wherein the processing unit: causes display of at least part of a log that includes a reference to the auxiliary data; and in response to user selection of the reference, causes display of the auxiliary data.

95. **(Currently Amended)** A set-top box for coupling a television set to the Internet, the set-top box including:

a television interface for receiving a television signal and for processing the television signal to extract logical address link data embedded within the television signal;

a user input device interface for receiving user input signals sent from a user with a user input device;

a network interface for transmitting one or more requests for auxiliary data referenced by the logical address link data and for receiving the auxiliary data;

a memory for storing computer-executable instructions for processing the user input signals, for processing the logical address link data, and for controlling one or more transitions between display of television programming and display of the auxiliary data; and

a processing unit for executing the computer-executable instructions, thereby processing the user input signals and the logical address link data, and thereby controlling the one or more transitions between the display of the television programming and the display of the auxiliary data, wherein the processing unit:

causes the display of the television programming;

responsive to receipt of the logical address link data, causes display of an icon during the display of the television programming, the icon indicating the availability of the auxiliary data referenced by the logical address link data; and

responsive to receipt of a user input signal indicating interest in the auxiliary data,
causes addition of identifying data for the auxiliary data into a favorites folder.

96. (Previously presented) The set-top box of claim 95 wherein the processing unit:
causes display of a panel with description of the auxiliary data; and
responsive to receipt of a first user input signal during the display of the panel, causes
ending the display of the panel and beginning display of the auxiliary data.

97. (Previously presented) The set-top box of claim 96 wherein the processing unit
causes the display of the auxiliary data concurrently with the display of the television
programming.

98. (Previously presented) The set-top box of claim 96 wherein the processing unit
causes the display of the auxiliary data instead of the display of the television programming.

99. (Previously presented) The set-top box of claim 96 wherein the processing unit, after
ending the display of the panel but before beginning the display of the auxiliary data, causes
display of a progress indicator indicating progress of retrieval of the auxiliary data.

100. (Previously presented) The set-top box of claim 95 wherein the processing unit:
causes display of a panel with description of the auxiliary data; and
responsive to receipt of a first user input signal during the display of the panel, causes
ending the display of the panel and returning to the display of the television programming.

101. (Previously presented) The set-top box of claim 95 wherein the icon is translucent.